UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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4/2/2012

U.S. Army Corps of Engineers
Jacksonville District
Attn: Leah Oberlin, Chief, Palm Beach Gardens Section
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, Florida 34410

Subject: **EPA's Comments on the Final Environmental impact Statement (FEIS) for "St. Lucie County South Beach and Dune Restoration Project, To Restore Recreational Beach, Restore Beach and Habitat, and Reduce Storm Damage Due to Beach Erosion, St. Lucie County, FL" ERP Number: COE-E39084-FL; CEQ Number: 20120045; CEQ Federal Register Date: 03/02/2012**

Dear Ms. Oberlin:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 is pleased to offer our comments on the Final Environmental Impact Statement (FEIS) for the "St Lucie County (FL) South Beach and Dune Restoration Project, To Restore Recreational Beach, Restore Beach and Habitat, and Reduce Storm Damage Due to Beach Erosion" dated February 2012. We understand that as part of the U.S. Department of the Army (DOA) Dredge and Fill Permit application process, the St. Lucie County Erosion District (the "County" or "Applicant") has submitted a Joint Coastal Permit (JCP) application for this project to the State of Florida Department of Environmental Protection (FDEP). The DOA authorization (if approved) would provide St. Lucie County with the necessary federal authorization to proceed with the project. As part of the permit process, the Corps has evaluated the environmental effects associated with beach nourishment and dune restoration and has prepared this FEIS.

EPA notes that the U.S. Army Corps of Engineers (Corps), Jacksonville District, served as the Lead Agency for this FEIS, and the Bureau of Ocean Energy Management, Regulation, and Enforcement (formerly Minerals Management Service) served as the Cooperating Agency. The FEIS was prepared by the Corps' contractor, Taylor Engineering, Inc. of Jacksonville, FL. EPA understands that the Corps' Planning Division is currently performing a feasibility study that is concurrent to, but independent of, this FEIS (which has been issued by the Corps' Regulatory Division). This study, known as the "St Lucie County Florida Hurricane and Storm Damage Reduction Study Feasibility Report," is an ongoing federal feasibility assessment study for this segment of

the beach. This feasibility study is considering a federally funded project along the southern beach segment. The FEIS may later serve as some or all of the National Environmental Policy Act (NEPA) documentation required for any eventual federal beach stabilization project at this project site.

EPA previously concurred with the Corps' decision to develop an Environmental Impact Statement because of the extensive hardbottom resources immediately adjacent to the beach, as well as the very popular recreational uses of the beach. As requested by the Corps on 4/21/2010, the Federal Register published a Notice of Intent (NOI) to prepare a Draft Environmental Impact Statement (DEIS) for the St. Lucie County South Beach and Dune Restoration Project located in St. Lucie County, Florida. Taylor Engineering mailed the NOI to interested and affected parties by letter dated 4/30/2010. The Corps and Taylor Engineering appropriately coordinated with the public and relevant federal, state, and local agencies. EIS scoping meetings were held in May and June 2010, and the scoping period ended on 6/20/2010. On 5/18/2011, EPA sent a letter to the Corps with our scoping comments for consideration by the Corps during the development of the DEIS. After publication of the DEIS in May 2011, EPA provided detailed comments via a letter (dated 7/11/2012) to the Corps' Project Manager, Mr. Garett Lips. EPA rated the DEIS as EC-2, meaning we had some Environmental Concerns and requested additional information be included with the FEIS.

EPA's comments and recommendations on the FEIS and project mitigation are as follows:

1. EPA notes that the FEIS appropriately features a "purpose and need" statement, with the proposed project's major purpose being "to stabilize the beach, which would also serve to restore the recreational area of the beach, restore beach and dune habitat for wildlife, and reduce potential storm damage by creating additional buffer between upland developments and the Atlantic Ocean." Hurricanes and severe "northeasters" have reportedly caused considerable erosion and damage to shoreline structures within the project area, and the FEIS appropriately notes that along parts of the shoreline, beach/dune erosion has made buildings and other structures vulnerable to severe storm damage.

2. The FEIS appropriately includes an analysis of project objectives (e.g., benefits) including: (1) re-establishing beaches as suitable recreational areas to maintain commerce associated with beach recreation in St. Lucie County; (2) maintaining suitable beach habitat for nesting sea turtles, invertebrate species, and shorebirds; and (3) reducing expected storm erosion damages to property and infrastructure.

3. This FEIS appropriately discloses the anticipated effects of the applicant's preferred alternative as well as other reasonable alternatives on the environment. As required under NEPA, the study includes a comparison of the applicant's proposal with other reasonable alternatives expected to achieve the project purpose. EPA notes that the comparison appropriately includes relevant environmental factors, resource considerations, and potential impacts and effects. EPA agrees with the Corps' use of

this NEPA process to render "an informed recommendation for approval, modification, or rejection of the applicant's proposal."

4. EPA notes that The St. Lucie County Erosion District (the applicant) has proposed the St. Lucie County South Beach and Dune Restoration Project as a "one time, single and complete project including beach and dune fill to provide storm damage protection to structures threatened by chronic shoreline retreat and storm-induced beach erosion." EPA concurs with the Corps' additional goal to also maintain an area suitable for recreation and wildlife habitat.

5. EPA believes that the potential environmental effects of this "new" beach nourishment project could significantly affect the quality of the human environment, and the authorization under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (RHA) constitutes a major federal action. EPA therefore concurs with the Corps that developing an Environmental Impact Statement (EIS) as part of the permit application process was appropriate.

6. EPA notes that the EIS appropriately considered the environmental resources identified within the project area, the underlying natural processes routinely occurring, and disclosed the potential effects of the applicant's preferred project and alternatives on the human and natural environments. EPA notes that the EIS looked at "resource-related" issues, including the quantity and duration of potential direct and temporary (construction related) impacts, cumulative effects on protected species, water quality, essential fish habitat (EFH), fish and wildlife resources, benthic communities, sediment transport, wave modification, cultural and socioeconomic resources, aesthetics and recreation.

7. EPA notes that the applicant's original "preferred alternative" was Alternative 4 in the DEIS. But, as noted in the FEIS (Summary, Major Findings and Conclusions, pg ii), the applicant's preferred alternative (described in its January 5, 2012 letter to the Corps) has become Alternative 6. With the change in the applicant's preferred alternative, the applicant is reportedly pursuing a less environmentally damaging alternative (LEDPA) consistent with the COE's requirements for measures to avoid and minimize impacts to the aquatic environment. This change eliminates the north segment of the proposed project and thereby reduces the total amount fill to be placed by 151,100 cubic yards and hardbottom impacts by 2.16 acres. EPA appreciates the applicant's willingness to reduce environmental impacts to the project during the NEPA review process.

8. The applicant's preferred alternative would reportedly directly impact about 0.57 acres of hardbottom habitat, and it would also have a short-term impact to about one acre of hardbottom associated with construction related turbidity. Based on Uniform Mitigation Assessment Methodology (UMAM) assessments from the applicant and reviewed by Corps for the FEIS, EPA understands that the compensatory mitigation to offset the anticipated adverse effects on nearshore hardbottom associated with the applicant's preferred alternative would require construction of 0.78 acres of nearshore

hardbottom reef. The mitigation site(s) would be located in the project area nearshore. Other alternatives considered in detail "have a range of adverse effects, both greater and lesser, and mitigation commensurate with the adverse effect." The applicant has identified "likely" locations for artificial reef placement in the general project area in approximately 15 feet (ft) of water and up to about 1,000 ft offshore.

9. The FEIS states that applicant and FDEP are still collaborating on resolution of the "final amount of impact and the amount of mitigation required offsetting impacts in accordance with state requirements." The proposed mitigation plan (Appendix G) needs to be further refined/modified to meet the preferred alternative and should incorporate all requirements of the Federal Compensatory Mitigation Rule (dated April 2008). The plan should be fully coordinated with Mr. Ron Miedema of our USEPA Region 4 Water Protection Division's South Florida Office (office: 561-615-5292 or -8741). Mr. Miedema should be fully consulted on all wetlands regulatory issues and questions.

10. The FEIS features several locations in which turbidity is discussed (pgs 124, 125, 146, 155, etc.), and states that proper implementation of the approved design and construction BMPs should prove effective in reducing the magnitude and extent of impacts resulting from project activities. The FEIS also states (page 147) that these design and BMPs to reduce turbidity are located in Section 2.1.1.2 of the FEIS, but EPA reviewers were not able to locate these turbidity design and BMPs in Section 2.1.1.2.

11. EPA also requests that a detailed biological monitoring plan be developed that assesses relative success of the mitigation reef(s) and direct, secondary, and long-term effects to nearshore hardbottom habitat associated with the proposed beach and dune restoration activities. As with the other issues, the Corps should also coordinate the turbidity and biological monitoring plans with Mr. Miedema.

12. The FEIS notes that the proposed project includes new construction, both in borrow and fill areas. The project design, the level of hardbottom impact(s) created by project construction, the level (but not kind) of mitigation, use of the proposed offshore borrow area, and the impacts that offshore shoal dredging are still the main unresolved issues for the proposed St. Lucie County South Beach and Dune Restoration Project. EPA notes that this project proposes very similar impacts to the previously authorized impacts associated with the adjacent Martin County Shore Protection Project.

13. The FEIS states (Summary, Alternatives, pg v): "The upland sand source alternative for the 485,900 cy of sand required for the applicant's preferred alternative did not receive detailed evaluation for this project." The impacts to the sand borrow areas and their associated macro-invertebrate communities from the dredging operation may be more extensive and long-term than has been suggested in assessment for previous beach nourishment projects (USACE 1987, 1994, and 1996). These studies have concluded that perturbations within borrow areas are negligible due to rapid re-

establishment of the infaunal communities. However, re-examination of the data from the borrow and reference areas of 4 beach renourishment projects on the southeast coast of Florida found that changes to the infaunal community structure may persist for 2-3 years or more (Wilbur and Stern 1992). Other studies have shown a decrease in diversity and abundance of the infaunal community in borrow areas several years following the dredging (Turbeville and Marsh 1982; Goldberg 1989). The impact that such projects have on macro-invertebrate communities should be considered as significant, because they are either directly, or indirectly, a major portion of the diet for many fish and macrocrustaceans (Baird and Ulanowicz 1989). The State of Florida and the Florida Keys National Marine Sanctuary have prohibited the collection of "live sand" (i.e. sand material, typically containing a high diversity of algal, bacterial and macroinvertabrate species, used in the aquarium industry) within the Sanctuary, stating that the sand substrate is an important habitat for grazers and detritivores and the removal of this habitat was determined to adversely impact marine productivity, fisheries, wildlife habitat, and water quality (FDEP 1998). In view of the adverse effects this project may have on Essential Fish Habitat, EPA requests that the use of an upland sand source alternative for this project be re-evaluated.

14. With similar future NEPA documents, EPA recommends that the Corps' discussion of the affected environment include a more detailed assessment of the barrier island's expected lifespan for the duration of the proposed action (typically 50 years). For example, Hurricane Katrina significantly altered the geomorphology of a number of barrier islands near the Louisiana and Mississippi coasts. This analysis should be based upon various categories of hurricanes and severe storms.

15. EPA is aware of the Corps.' extensive sea-level modeling as part of its civil works environmental impacts analysis. EPA recommends that, in future NEPA documents, the affected environment section depicts with figures or maps the various sea-level rise scenarios ("low", "intermediate," and "high") and their implications upon the barrier island, particularly with regard to existing multifamily structures. EPA also recommends additional discussion and figures/maps to reflect the cumulative effects of storms plus sea-level rise on the barrier island or other coastal projects. A projected 0.12 – 0.63 meter rise (the low to high scenarios for this St. Lucie project) may be very significant to many barrier islands.

16. Finally, included herein are the references utilized by EPA to assist us during our review of the FEIS:

- Baird, D. and R.E. Ulanowicz. 1989. The season dynamics of the Chesapeake Bay ecosystem. Ecol. Monogr. 59:329-364.
- Florida Department of Environmental Protection (FDEP). 1998. Consolidated Notice of Denial for ERP Activities on Sovereign Submerged Lands. January 8, 1998. File Number 0128760-001.

- Goldberg, W.M. 1989. Biological effects of beach restoration in south Florida: the good, the bad, and the ugly. In Proc. 1988 National Conf. Beach Preserv. Technol. FL. Shore and Beach Preserv. Assoc., Tallahassee, FL. p. 19-27.
- Turbeville, D.B. and G.A. Marsh. 1982. Benthic fauna of an offshore borrow area in Broward County, Florida. U.S. Army Corps of Engineers Coastal Engineering Research Center. Misc. Rep. 82-1.p. 1-43.
- U.S. Army Corps of Engineers (USACE), 1987. Design Memorandum Addendum I for Beach Erosion Control and Hurricane Protection. Dade County, Florida, North of Haulover Beach Park. Jacksonville, FL.
- U.S. Army Corps of Engineers (USACE), 1994. Palm Beach County, Florida, Shore Protection Project. General Design Memorandum For Jupiter/Carlin Segment. Jacksonville, FL.
- U.S. Army Corps of Engineers (USACE), 1996. Coast of Florida erosion and storm effects study: Region III with final environmental impact statement. Jacksonville, FL.
- Wilber, P. and M. Stern. 1992. A re-examination of infaunal studies that accompany beach renourishment projects. In S. Tait (ed.), Proc. 1992 National Conf. Beach Preserv. Technol., FL.
- Shore and Beach Preserv. Assoc., Tallahassee, Fl. p. 242-257.

Thank you, again, for the opportunity to comment and make recommendations on this FEIS. If you wish to discuss EPA's comments, please contact me at 404/562-9611(mueller.heinz@epa.gov), Ron Miedema at 561/616-8741(miedema.ron@epa.gov) in our South Florida office, or Paul Gagliano, P.E., at 404/562-9373 (gagliano.paul@epa.gov)

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

cc
Ron Miedema
EPA Region 4 South Florida Office